Orthognathic surgery may be an option you are considering. This leaflet has been designed to help you understand the process a little better.

**What is Orthognathic surgery?**

The distance between your top and bottom teeth may be too great to correct by simply moving your teeth so orthognathic surgery may be advised. Orthognathic surgery involves altering the alignment of the jaws to improve both the function and appearance of the mouth.

There are many advantages to Orthognathic surgery. This usually results in improvements in appearance as the jaws are aligned. Other advantages may involve your speech. Many speech sounds are made with the tongue inside the mouth with the tongue behind your top teeth. You may have difficulty pronouncing some sounds for example s, and z, if your top jaw is further back than your lower jaw as the tongue can not easily sit behind your top teeth. Orthognathic surgery helps to bring your top jaw forward allowing your tongue to sit in the correct position to produce some sounds.
Orthognathic surgery may also help to alleviate obstruction, making nasal breathing easier.


a) Jaw misalignment  b) Jaw alignment after surgery.

Some patients will experience an increase in nasal air escape following this procedure due to the palate (roof of your mouth) being moved. The palate has an important role in speech production as it closes off the nose from the mouth during speech. Most sounds produced in English are made with the palate raised with the air coming out of the mouth as the nose cavity is closed off, for example sounds are called ‘oral’ sounds (e.g. p, b, t, d, k, g, f, v, s, z, sh, ch, j). In addition to this there are three sounds (m, n and ing) where the palate is lowered, allowing air into the nose. These sounds are therefore called ‘nasals’.

The palate is attached to your top jaw and during Orthognathic surgery is moved forward. In 80% of cases this movement has no effect on the palate but in 20% of cases the forward movement can effect the ability of the palate to reach the back of the throat to shut off the nose when speaking. This can result in speech sounding nasal, as air escapes from the nose.

Will this happen to me?

Your speech will be formally assessed before you begin treatment for Orthognathic surgery by a Specialist Speech and Language Therapist. This will involve a speech assessment which is video and audio recorded. It is difficult to predict who will have difficulties with air coming down the nose but the speech assessment will help the Cleft team to determine whether you are at high or low risk of developing nasal speech. If the speech assessment show that your palate moves well, the moving of your jaw in surgery may not affect your speech. If however it is thought your palate is short or has poor movement you may be at risk of developing nasal air escape when you speak post surgery. This will be discussed with you before you decide whether or not to undergo treatment.

When will I know if there have been changes to my speech?

Initially some patients’ speech can sound nasal but this tends to settle down in the early weeks and months following surgery. You will be seen six months and one year after surgery for a full speech assessment which will be able to deduce whether there have been any changes to the way your speech sounds. If it is felt that your speech has a nasal quality due to your palate not reaching the back of your throat to close off the nose, further investigations, such as an X-ray, may be considered. This will be discussed in detail with you and the team.
For some patients the improvements in facial appearance far outweigh any deterioration in speech, but it is important that you are fully informed about the risks to help you make your decision regarding surgery.

**Are there any risks?**

All operations involve a degree of risk related to the general anaesthetic. This however is a small risk. Following the operation you may experience numbness around the jaw which may last for approximately six weeks to six months. Risks vary depending on your operation and should be discussed in detail with your surgeon.

We hope this information leaflet has answered many of your questions.

______________________________

If you have any questions or concerns please contact:

Your local G.P for information or the Speech and Language Therapy Department, Morriston Hospital, Swansea
Telephone: (01792) 703854
8.30am-4.30pm Mon-Fri
Out of hours answering machine available

Cleft Lip and Palate Co-ordinator
Telephone: (01792) 703810

First Published: May 2007
Version no: 1
Reviewed: May 2008
Author: Specialist Speech and Language Therapists, South Wales Cleft Service
EB273
Review date: March 2010